Featured Article

BY VIKAS CHANDRA

WHEN ACADEMICIANS BECOME ENTREPRENEURS

THE FIRST IN A SERIES OF PROFILES

Let's start with your memories of BITS.

I was "76EEE056" at BITS. Of the 21 years spent in getting education, and nearly two decades thereafter, I look back at my BITS days more than school days. BITS was certainly more fun than graduate studies. I remember learning to live independently, the camaraderie, the unique experiences of OASIS and the practice schools, and the character building that involved knowing good students from all over India. I recall that our professors were mostly good to excellent, sincere, and some were also inspiring, but even more important was the educational process and curriculum, including the selection of reading materials.

Tell us how you came to the USA, and transitioned into life here?

It was relatively well planned. I remember going to the IIT-Delhi library during PS2. I decided to focus on Databases, the area I liked the most. Two of the most published Professors in Databases were at Wisconsin and Ohio State University.

Once I got in, I knew I would not stop at a Masters, but complete my PhD. Maybe this was because my father was a professor.

I was lucky to have assistantship offers from OSU and Wisconsin. OSU's offer came first with a letter from Prof. Chandrasekaran, strongly advising that it would look upon badly of Indians if I accepted their offer and backed out if I got a "better offer" later.

A week after I accepted OSU offer, I got a better offer from Wisconsin – better not only in terms of money and duration, but also overall. Wisconsin was "rated" higher in Databases than OSU. Well, Prof. Chandrasekaran's letter had its intended effect. I did not back out. Looking back, I do not regret my decision.

Name: Dr. Amit Sheth

Academic Position: Professor of Computer Science, Director of the Large Scale Distributed Information Systems Lab, University of Georgia.

Business Position: CTO, Semagix, Inc.

Entrepreneurial Ventures:

- Founder & CEO of **Taalee,** a VC funded enterprise software company. Acquired by Voquette Inc. (now Semagix) in 2001.
- Founder, **Semantic**, a web technology startup
- Founder, **Infocosm, Inc.**

Former jobs: R&D labs at Bellcore (now Telcordia Technologies) Unisys, and Honeywell.

Education: PhD (1985) and MS (1983), Ohio State University & BE (Hons), BITS (1981)

What prompted you to leave the commercial world and enter Academia?

I came to give the aspect of not having a boss a very high rating. It started with my first and only layoff. I had moved from Honeywell to Unisys, attracted by a higher position, higher salary and better technical focus. I got an out-of-turn raise and three levels of management told me how much they valued me, I was walking on water. But two months after that, Unisys decided to close down our entire location. I felt that many things were beyond my control.

At Bellcore, I was introduced to bureaucracy. My boss's boss's boss had to approve my travel. After I already won an externally funded project based on my proposal, I had to write a report on why we should accept the funds!

So I said to myself, if I can bring in my own funds why not do so in a University where I can decide what to propose and how to carry out the research?

And this was what I did exactly. External funding has allowed my LSDIS lab to set up a vibrant research environment where we carry out world class research.

You have worked in Industry, in academia and as an entrepreneur— which one you like most and why?

True-- I have had opportunity to have varied work experience—in industry R&D, as a professor, and as an entrepreneur.

In academia, what I enjoy most is my interactions with graduate students. One of the things I am most proud about is an award from UGA for helping in career advancements of my former students. This was determined based on interviews of

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and inputs from UGA graduates. I am in routine contact with almost all my former students, whether MS or PhD.

As for entrepreneurship, I enjoy it because I am able to do it on my own terms and in parallel with my continued association with UGA. My primary purpose for starting Infocosm and Taalee (now Semagix) was to demonstrate the value of research carried out at the LSDIS lab. There are two ways to prove impact of research—through commercialization where research translated into technology and then operational products driving economic engine, and through trend-setting publications that others care to cite and use in their research.

> **Dr Sheth's top three reasons for doing a PhD**
>
> **1. If you want to have a high degree of independence and "self governance" in your career**
>
> **2. If you want to be a thought leader in your area of specialization**
>
> **3. If you want an option to be a professor (even if some time in future) which would bring more job security**

I feel that the focus on coursework during bachelors and masters simply does not allow for training one's other faculties and capabilities. It takes an effort to become a *thought leader*. Perhaps a PhD does not help a lot in becoming a business leader, but if you want to be a *thought leader*, especially involving technical vision, PhD has a lot to offer. Again, tying it back to my experience, it is a PhD that gave me the freedom to go to academia. And, from academia, I decided to launch a couple of companies and dabbled in being an entrepreneur on my own terms. I am delighted to

see sudden up tick in Indian applications for the PhD program. The applicants who are considering a PhD due to difficult job market conditions today will reap some good long term benefits.

Any thoughts on how to select a university?

There are three key factors: quality of teaching (for MS and PhD both) and research, selection of the right advisor, and an area of studies. The most important, in my view is to ensure you know what you like. A student who knows his research and career interest even before completing MS equivalent coursework is likely to be far more successful than the one who doesn't know what he or she likes for a year until after joining the graduate program. This is because the student who knows his/her interest can use that to make crucial decisions in selecting the university and/or advisor.

I think, too much importance is given to the ranking of the university or department. First of all, most the rankings are trailing indicators—reflecting the past. Second, the influence an advisor has in your success is often far more critical than the university and department. I think, selecting the advisor is simple—find someone who you would like to be like. Go to citeseer and see if he/she is in top 1000. Or see if he/she has done things that you would like to do, or has funded projects in the area you wish to pursue. An advisor who has not worked in industry or consulted with industry substantially can hardly help you prepare for that in any substantial way. An advisor who has not either founded or consulted with a startup cannot help you understand entrepreneurship. And make sure your advisor does not have 10 PhD students or is too busy to spend quality time for you. An advisor—advisee relationship is, in fact, fairly close to the old tradition of *guru shishya parampara*. If you have a great advisor, you will be armed with all the tools and techniques you will need to take on a challenging and satisfying career path.

Do you have thoughts or advice to BITSians on pursing graduate studies?

When I came to USA in 1981, the majority of the Indian graduate students came here for PhDs. During the 90s I saw a significant decline in this trend, with most students dropping out after completing their Masters. In my department, no Indian student finished his PhD from 1997-2001, during one of the greatest bull markets in American history. Jobs and careers in the business world appeared much more attractive than studying for a doctorate degree. Prospective students were also advised by their seniors that it was not worthwhile to do a PhD.

A PhD made it easier for me to lead projects and gave me a few years' lead over Masters graduates. It handed me opportunities to work on more exciting projects much earlier than those around me without PhDs. It seemed to me that the senior management in R&D in my industry were more likely to trust a PhD with a research-oriented project or a project involving development of newer technologies. Besides the greater specialized education, the experience in writing papers and proposals, and experience in conference talks prepared me much better to market my ideas to management, customers/sponsors and peers.

Whether you are in industry or academia, you have to sell—it is just that audiences are different. In industry you sell to your customers and upper management. In academia you sell you your research sponsors and your peers who evaluate your proposals. Some techniques are different but some are the same. Even in industry, you are generally selling the promise of your product than the product itself. And if you have a good PhD advisor, he/she will help you hone this critical capability rather than just do narrow research and publish some technical papers (which are nevertheless unavoidable). He/she will guide you on how to effectively formulate ideas and their value propositions, and how to effectively present them. He/she will help you gain leadership skills.